

Directions:

1. Write your name with one character in each box below.
2. Show all work. No credit for answers without work.
3. All answers should be simplified.

1. [6 parts, 2 points each] Use the u -substitution to compute the following.

(a) $\int_1^3 \frac{\ln x}{x} dx$

(d) $\int \frac{x^2}{1+x^6} dx$

(b) $\int x(x^2+1)^4 dx$

(e) $\int x^3(x^2+1)^4 dx$

(c) $\int \sec^2 x \tan^2 x dx$

(f) $\int \frac{1}{x^2-2x+5} dx$